



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/678,602	10/03/2003	Scott Loughmiller	240.1001.01	6146
22883	7590	02/13/2006	EXAMINER	
SWERNOFSKY LAW GROUP PC P.O. BOX 390013 MOUNTAIN VIEW, CA 94039-0013			FERNANDEZ RIVAS, OMAR F	
			ART UNIT	PAPER NUMBER
			2129	

DATE MAILED: 02/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/678,602	<b>Applicant(s)</b> LOUGHMILLER ET AL.	
	<b>Examiner</b> Omar F. Fernández Rivas	<b>Art Unit</b> 2129	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 October 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>A1,A2,A3</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description:

Paragraph 34, line 2, recites "an entry point 125" on Figure 1 which is not shown.

Paragraph 34, line 10 recites "a first port 123" on Figure 1 which is not shown.

Paragraph 34, line 10 recites "a first port 123" on Figure 1 which is not shown.

Paragraph 34, line 12 recites "a first port 124" on Figure 1 which is not shown.

Paragraph 35, line 8 recites "a first port 132" on Figure 1 which is not shown.

Paragraph 35, line 9 recites "a first port 133" on Figure 1 which is not shown.

Paragraph 105, line 2 recites "the method 500" on Figure 5 which is not shown.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Objections***

2. Claim 2 is objected to because of the following informalities: the examiner considers that claim 2 should recite: "...wherein the machine learning techniques include ***using*** neural networks". Appropriate correction is required.

***Claim Rejections - 35 USC § 101***

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-13 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claimed invention fails to produce a useful, concrete, and tangible result.

In the present case, claim 1 only recites a method for classifying messages. The recited steps in the subsequent claims of classifying messages fail to provide a useful and tangible application for such classification. These steps only constitute an idea of how to classify messages.

The Courts have found that subject matter that is not a practical application or use of an idea, a law of nature or a natural phenomenon is not patentable. See, e.g., *Rubber-Tip Pencil Co. v. Howard*, 87 U.S. (20 Wall.) 498, 507 (1874) ("idea of itself is not patentable, but a new device by which it may be made practically useful is"); *Warmerman*, 33 F.3d at 1360, 31 USPQ2d at 1759.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horvitz et al in view of Donaldson (US Patent #6,161,130, referred to as **Horvitz**; US Patent # 6,321,267, referred to as **Donaldson**).

**Claim 1**

Horvitz teaches a method for classifying messages (**Horvitz**: abstract, L1-5), comprising the steps of: recognizing patterns including words and groups of words in a messages (**Horvitz**: C9, L18-51; C11, L55-59; Figs. 5A, 5B, 6A, 6B); applying a plurality of machine learning techniques responsive to the recognized patterns in order to classify the message (**Horvitz**: abstract, L5-18; C4, L40-53; Figs. 5A, 5B, 6A, 6B).

**Claim 2**

Horvitz teaches the machine learning techniques include neural networks (**Horvitz**: C9, L57-62; C15, L10-17; a support vector machine is a neural network).

**Claim 3**

Horvitz teaches the neural networks are pretrained to classify the message as a good message, a bulk message, or a spam message (Horvitz: C4, L40-53; C5, L16-21; C5, L35-37; C26, L10-17; Fig. 3A; legitimate mail is a good message, non-legitimate mail is a spam message and commercial spam is considered as bulk messages).

**Claim 4**

Horvitz teaches the neural networks further comprise at least two levels of neural networks (Horvitz: C15, L17-29; multiple classifiers would be two or more levels of neural networks).

**Claim 5**

Horvitz teaches the two levels of neural networks include a first level that determines if the message is likely good or likely spam, and a second level that determines if a likely good message is good and if a likely spam message is spam (Horvitz: C4, L40-53; C8, L54-57; C13, L57-67, C14, L1; C15, L10-29; Figs. 2, 3A; by "boosting" the output of the neural networks and weighting their outputs differently, one of the networks can determine if a message is likely to be good or spam and the other network can further decide if it is definitely a good or spam message. This could also be done by using the teaching of feeding the classification output of a classifier as input to another classifier).

Art Unit: 2129

**Claim 6**

Horvitz teaches two levels of neural networks include a first level that determines if the message is likely good or likely spam, and a second level that determines if a likely good message is good or bulk and if a likely spam message is spam or bulk (Horvitz: C4, L40-53; C5, L16-21; C26, L10-17; C15, L10-29; Figs. 2, 3A; the messages can be classified in different subclasses such as commercial opportunities, which are considered to be bulk messages).

**Claim 7**

Horvitz teaches for at least one of the classifications the neural networks classify the message in one of three classifications, wherein more than one path through the neural networks exists for the message to arrive at that classification (Horvitz: C4, L40-53; C5, L16-21; C13, L57-67, C14, L1; Fig. 3A; by comparing the probability to a threshold, there exists more than one path to classify the message).

**Claim 8**

Horvitz teaches the step of dynamically maintaining the neural networks responsive to classification of the message (Horvitz: C10, L27-38; L6-18 C26, L22-31).

**Claim 9**

Horvitz teaches the step of applying rules to the message to help classify the message (**Horvitz**: C4, L40-53; C9, L18-51; Figs. 5A, 5B, 6A, 6B).

**Claim 10**

Horvitz does not teach if the message is classified by the rules, the step of applying the neural networks is skipped.

Donaldson teaches if the message is classified by the rules, the step of applying the neural networks is skipped (**Donaldson**: C11, L17-32; Fig. 7; the rules to apply are included in the Trusted DB, the Whitelist DB and the Blacklist DB. Bypassing further filtering based on these rules means that the neural network step of classifying the messages is skipped).

It would have been obvious to one of ordinary skill in the arts at the time of the applicant's invention to modify the teachings of Horvitz by incorporating the step of skipping the step of applying the message to the neural network if the message is classified by the rules as taught by Donaldson for the purpose of saving computing time by not passing the message through the neural network and taking action if a message complies with certain attributes.

**Claim 11**

Horvitz does not teach the rules utilize a whitelist, a blacklist, or both the whitelist and the blacklist.

Donaldson teaches the rules utilize a whitelist, a blacklist, or both the whitelist and the blacklist (**Donaldson**: C11, L17-32).



It would have been obvious to one of ordinary skill in the arts at the time of the applicant's invention to modify the teachings of Horvitz by utilizing a whitelist, a blacklist, or both the whitelist and the blacklist as taught by Donaldson for the purpose of having a means to classify and taking action on the incoming message based on the sender of the message.

#### **Claim 12**

Horvitz does not teach the step of dynamically maintaining the whitelist, the blacklist, or both the whitelist and the blacklist responsive to classification of the message

Donaldson teaches the step of dynamically maintaining the whitelist, the blacklist, or both the whitelist and the blacklist responsive to classification of the message (**Donaldson**: C27, L20-45; C28, L45-55; C31, L32-39; C35, L20-22; C35, L36-44).

It would have been obvious to one of ordinary skill in the arts at the time of the applicant's invention to modify the teachings of Horvitz by utilizing the step of dynamically maintaining the whitelist, the blacklist, or both the whitelist and the blacklist responsive to classification of the message as taught by Donaldson for the purpose further refining or updating the lists with new addresses so that future messages can be classified based on the sender.

**Claim 13**

Horvitz teaches the step of recognizing expressions further includes the step of applying a genetic algorithm to select a set of regular expressions to be recognized (Horvitz: C5, L53-65; C15, L54-67, C16, L1-53; Fig. 3B; A genetic algorithm is considered to be a constrained optimization problem. A set of attributes is iteratively refined to obtain a maximum value out of a given function).

***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Rothwell et al. US Patent #6,769,016

Leeds US Patent #6,393,465

5. Claims 1-13 are rejected.

***Correspondence Information***

6. Any inquires concerning this communication or earlier communications from the examiner should be directed to Omar F. Fernández Rivas, who may be reached Monday through Friday, between 8:00 a.m. and 5:00 p.m. EST. or via telephone at (571) 272-2589 or email [omar.fernandezrivas@uspto.gov](mailto:omar.fernandezrivas@uspto.gov).

If you need to send an Official facsimile transmission, please send it to (571) 273-8300.

If attempts to reach the examiner are unsuccessful the Examiner's Supervisor, David Vincent, may be reached at (571) 272-3080.

Art Unit: 2129

Hand-delivered responses should be delivered to the Receptionist @ (Customer Service Window Randolph Building 401 Dulany Street Alexandria, VA 22313), located on the first floor of the south side of the Randolph Building.

Omar F. Fernández Rivas  
Patent Examiner  
Artificial Intelligence Art Unit 2129  
United States Department of Commerce  
Patent & Trademark Office

Friday, February 03, 2006

OFR

  
DAVID VINCENT  
SUPERVISORY PATENT EXAMINER